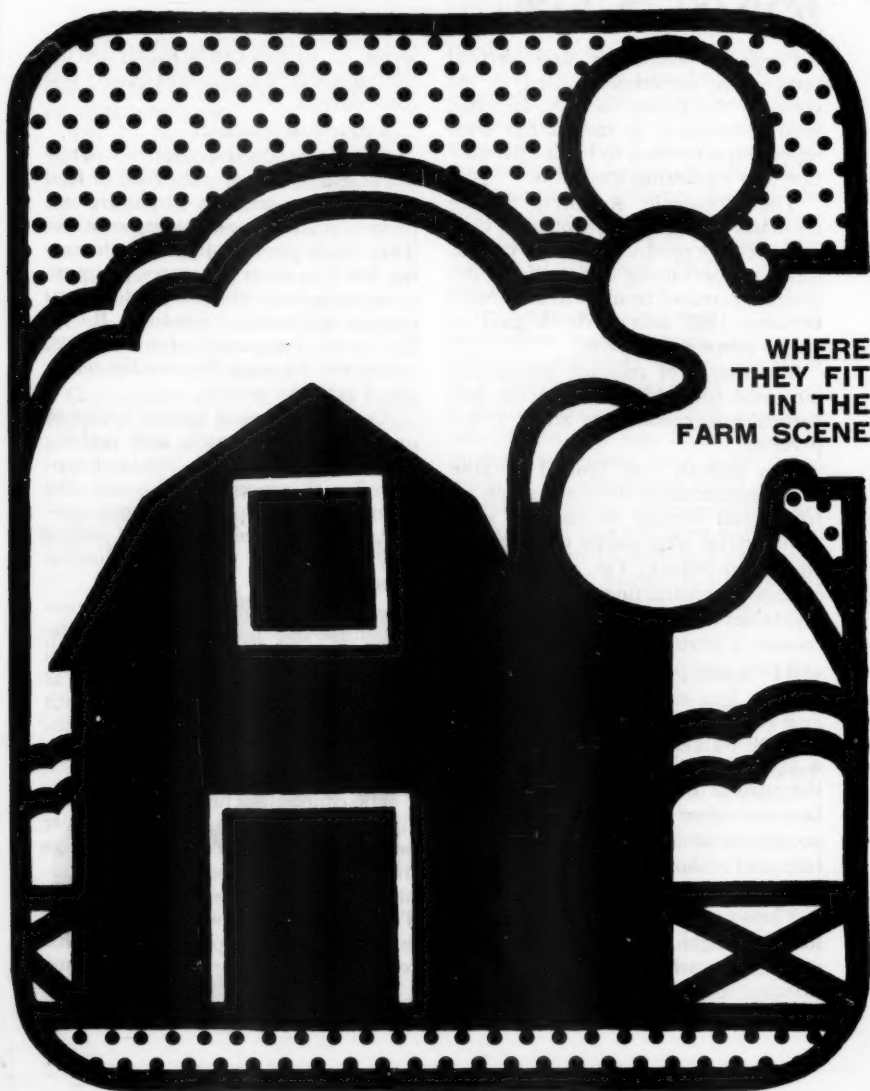


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CONTRACTING AND VERTICAL INTEGRATION



Contracting and Vertical Integration: WHERE THEY FIT IN THE FARM SCENE

Contract production and vertical integration, sometimes touted as the wave of the future in U.S. farming, aren't increasing as fast as has been supposed, according to USDA production and marketing specialists.

The Economic Research Service estimates the proportion of total crop and livestock production under various forms of contracting and vertical integration increased from 19 to 22 percent between 1960 and 1970—a gain of only 3 percentage points.

The extent of contract production increased from 15 to 17 percent and vertical integration from about 4 to 5 percent.

The growth was limited because many commodities were not much affected and because increases in some commodities were partly offset by decreases in others. For example, increases in contracting in cotton and vegetables were counterbalanced by decreases in citrus and in the dry beans and peas group.

Contracting

Contract production in farming is a fairly inclusive term that includes the various buy/sell agreements that farmers enter into with dealers or processors or other businessmen before undertaking the production of a commodity.

These agreements can be either loose arrangements spelling out only minimum prices and production

levels . . . or they can be highly specific contracts setting down tight quality and cost controls.

A couple of examples:

—Grain production contracts, while not extensive in either the food or feed grain sectors, tend to emphasize improved practices and quality controls. They rarely provide supplies or financing but they often guarantee premium prices to farmers who can produce consistently high-quality products. Breakfast food companies, for instance, sometimes contract for certain qualities of grain for cereals.

Also, producers of special strains of grain, high lysine corn, and malting barley often enter into "forward contracts" with processors. This way, the farmers of such specialized commodities are guaranteed a market before they commit their valuable production resources.

—In broiler production, where contracting is extensive, the contracting firm often is a processor or a feed mill that supplies production inputs such as chicks, feed, and medicine along with some financing. The farmer contributes his labor, buildings, and managerial expertise.

The contracting firm generally exercises a good deal of control over broiler production costs and quality so that it can be assured of a steady supply of birds at a consistently low price. The farmer, meanwhile, can count on a minimum payment for his resources—plus he usually gets a bonus

for efficient feed conversion rates or other savings for the contractor.

Production contracts figure far more prominently in livestock enterprises than in crop farming. Reason: Livestock products tend to be more perishable and are subject to quality variations which may require closer coordination.

Most commodities with important elements of contracting have had these elements for quite some time.

For instance, fluid milk production has long been organized under contract arrangements either through cooperatives or directly with independent milk producers.

The dramatic expansion of contracting in the broiler industry was essentially complete by 1960—though there was a spillover effect on egg and turkey production in the 1960's. Contracting for the latter two items grew during the decade—the result of combining technological developments in breeding, feeding, and disease control with the economic strategies proven successful by broilermen.

Contracting gains in the fed cattle industry during 1960–1970 centered around the rapid increase in large commercial feedlots and the associated gain in custom feeding.

In crop farming contracting has long been extensive in both the pro-

duction of sugarbeets and vegetables for processing. For both commodities processors need an assured supply to operate their expensive equipment efficiently. At the same time producers of both crops need guaranteed markets—in the case of sugarbeets because there are no alternative outlets; in the case of vegetables because the crop is highly perishable.

A notable drop in contracting occurred during the 1960's in production of dry beans and peas. Back in 1960 production contracts were very much in vogue for these two commodities—especially when the crops were newly introduced in an area. The contracts generally contained quality provisions and called for improved practices.

However, as growers learned the culture these features were no longer necessary and by 1970 contract production of dry beans and peas was no longer common.

In contrast, contracting in cotton production was markedly higher in 1970 than a decade earlier—the result of a short supply situation.

Cotton contracts in 1970 were usually initiated by merchants, shippers, ginners, sometimes even mills themselves in an attempt to make sure of meeting business commitments. (Actually the 11-percent share of the crop contracted for in 1970 had swelled to 32 percent by August 1, 1972 as the tight supply situation persists.)

Vertical integration

Vertical integration means tying two or more production and marketing steps together within a single firm for the purpose of lowering costs and boosting operation efficiency. At present the extent of vertical integration is about the same for both crop and livestock production—limited.

Thus far the sugarcane industry has experienced the greatest move toward vertical integration—with about 60 percent of the crop in Hawaii grown under an intricate system of plantation farming and milling, with coopera-



tive refining and marketing, including unionized labor.

On the Mainland about a third of our citrus production is vertically integrated—usually with processors owning their own groves.

The Future

ERS sees little reason to believe there will be a rapid rush into these forms of closer coordination. The gain of 3 percentage points last decade reflects considerable stability.

In many commodities there's little need for close coordination between farmers and businessmen off the farm.

For example, well functioning markets and long established production technologies for food and feed grains make it unnecessary for producers—or marketers—to initiate production contracts or integrate vertically.

While tight supply situations or special economic needs may dictate occasional increases in closer coordination—as is happening now with cotton—these may well be offset by decreases in other crops as the special needs decline—witness the example of dry beans and peas.

Whatever occurs, though, ERS economists expect overall growth of closer coordination to be gradual.

Item	Share of production under— ¹			
	Contracts		Vertical integration	
	1960	1970	1960	1970
Crops:	Percent		Percent	
Cotton	5	11	3	1
Dry beans and peas	35	1	1	1
Feed grains	2	2	2	2
Food grains	1	2	2	2
Fruits and nuts:				
Citrus	60	55	20	30
Other	20	20	15	20
Hay and forage	2	2	—	—
Oil-bearing crops	1	1	2	2
Potatoes	40	45	30	25
Seed crops	80	80	2	2
Sugar crops:				
Beets	98	98	2	2
Cane	40	40	60	60
Other	5	5	2	2
Tobacco	2	2	2	2
Vegetables:				
Fresh market	20	21	25	30
Processing	67	85	8	10
Total crops	9	10	4	5
Livestock:				
Broilers	93	90	5	7
Eggs	5	20	10	20
Fed cattle	10	18	3	4
Hogs	2	1	2	1
Milk:				
Fluid	95	95	3	3
Manufacturing	25	25	2	1
Sheep and lambs	2	7	2	3
Turkeys	30	42	4	12
Miscellaneous	3	3	1	1
Total livestock	27	31	3	5
Total farm output (crop and livestock combined)	15	17	4	5

¹ Estimates based on the informal judgments of production and marketing specialists within USDA. Precise and certain data on the extent of various forms of coordination do not exist for many commodities.

² Less than 1 percent.



SPOTLIGHT ON TENNESSEE

"The highway signs on our borders used to say 'Welcome to the Three States of Tennessee,' and keeping track of our agriculture certainly proves the variety," notes Robert Hobson, statistician in charge of SRS's Crop and Livestock Reporting Service at Nashville.

"Farm numbers in East, Middle, and West Tennessee point out the differing historical and cultural backgrounds of each of the Tennessees."

Tennessee, 36th in State size, ranks fifth in farm numbers with 123,000. East Tennessee, pioneered in the 1770's, contains 35 percent of the State's farms.

"Most of these are small farms, averaging only 83 acres each. They include many part-time farms, rural residences of older people, and subsistence farms," continues Hobson.

Middle Tennessee, settled by land grants given to the veterans of the American Revolution and the War of 1812, has 41 percent of the Volunteer State's farms. Farm size averages larger than in East Tennessee.

Farming in West Tennessee has its roots in plantation agriculture. Settled after 1830 by people who were then big farmers, the area contains most of the State's large farms and just over 23 percent of the farm numbers.

During 1971 Tennessee's farmers earned almost \$747 million in cash receipts. Over 56 percent came from livestock and poultry, while crops brought in the remaining 44 percent.

"One thing that we raise in all three Tennessees is cattle," continues Hobson. Cattle numbered 2.5 million this January 1, up 1 million since 1960. All the increase was in beef animals.

Cattle and calves earned Tennesseans \$187 million in cash receipts, a quarter of the 1971 farm income. Last year operators sold 567,000 cattle—mostly animals from breeding herds—which brought an average \$24 per 100 pounds.

Last year 494,000 calves were sold at an average \$35 per 100 pounds. About four-fifths were beef-type calves, sold mostly at county auctions or on an individual basis.

"The other fifth were dairy calves," says Hobson, "and that brings us to the State's second biggest agricultural earner, dairy products."

Tennessee dairymen took in \$117 million from dairy sales last year, around 16 percent of the State total for cash receipts.

Dairy cows in Tennessee have followed the national decline, numbering 284,000 this January 1, compared with 1960's 532,000. However, milk production per cow went up 59 percent over those years, standing at 7,317 pounds per cow last year.

Add beef and dairy income to that for chickens, hogs, and eggs and the livestock sector brought in over \$419 million in cash receipts.

"Crops reflect Tennessee's history more than the new livestock complex," says Hobson. "Cotton grows mainly in West Tennessee, on and near the Mis-



A 50-acre underwater feedlot (above) in West Tennessee produces catfish, a new kind of agriculture of the western Tennessee Valley. Last year 200 Tennessee producers fed out 3 million pounds of catfish, worth \$1 million. On a more conventional note (left), owners watch a herd of the Volunteer State's most valuable commodity. Earnings from cattle and calves have more than doubled since 1960.

Mississippi Delta where the plantations flourished before the Civil War."

Actually the crop reached its peak in 1925 when Tennessee planted almost 1.2 million acres for a harvest of 515,000 bales. Last year 425,000 acres yielded 528,000 bales. Cotton lint and seed brought farmers \$80 million in cash receipts, almost 11 percent of the agricultural total during 1971.

"Our other traditional crop, tobacco, is grown in both East and Middle Tennessee on small plots that require much hand labor. Tobacco brought in \$76 million last year, over 10 percent of receipts. More than 80 percent of that came from burley," continues Hobson.

"But both traditional crops have been giving way to the soybean of late. The State has almost doubled production of this crop since 1965. Soybeans led all others for cash receipts last year—over \$96 million for almost 13 percent of total cash receipts from farming."

Last year Tennessee harvested over 1.3 million acres of soybeans for a 33.9 million bushel yield. "Compare that

with 1965 figures: 732,000 acres harvested for 17.2 million bushels," adds Hobson.

Then, changing the subject, Hobson talks a bit about the Tennessee Valley Authority. "We share TVA with six other States. At first the lakes from the project inundated many acres of fertile valley land, but the TVA has set up model farms and fertilizer programs that increased production in some counties dramatically."

In East Tennessee some counties have doubled agricultural production through the efforts of the Authority and the Extension Service.

Also, commercial traffic on the waterway hit a record 25 million tons in 1970. The water system saved shippers an estimated \$50 million in freight charges—and many shippers move farm products.

"The Authority also adds much to fishing in the State, and I might add to fish culture," concludes Hobson. "Some Tennessee operators have started feeding catfish out to several pounds. During 1970 there were 25,000 acres in catfish production in Tennessee Valley States."

COTTON HARVESTING: ONCE OR TWICE OVER?

During 1967 once-over harvesting produced the biggest cotton yields. During 1968 twice-harvested acreage did best. During 1969 there was little detectable difference between the two methods.

Which all goes to show, say researchers at USDA's Agricultural Experiment Station in Stoneville, Miss., that yields probably depend more on the year than on the treatment.

The Stoneville people studied cotton harvest and preharvest operations from a cost angle over 3 years.

During the entire time, yields on twice-over fields averaged about 30 pounds more lint than the once-picked plots. But the machinery and labor bills that piled up with extra picking generally offset the yield advantage.

However, the twice-over cotton graded better over the 3 years than the once-over. It averaged longer staple lengths, wider span lengths, and tested

out to higher resistance on pounds per square inch.

To Spray or Not to Spray?—The Stoneville team also compared two defoliation treatments—bottom and total—with no chemical defoliation at all.

Weighing all factors, the researchers concluded that no defoliants need to be applied if a considerable number of leaves had fallen and if second growth was not prevalent.

Undeveloped acres scored highest on net returns to farmers. Farmers netted \$4 less an acre if they defoliated when bolls were 80 percent open and \$10 less if they defoliated when bolls stood 60 percent open.

However, total defoliation did increase grade and reduced moisture, trash, and incidence of spotted lint.

Bottom defoliation averaged lowest on net returns, grade, and strength. It was deemed of doubtful value and when performed early enough to check boll rot it often resulted in lower yields per acre.

FARMLAND VALUES: THE DIRECTION IS UP

Farm real estate values are up sharply and the trend is expected to continue.

That's the word from USDA's Economic Research Service, which says that the national average value of farm real estate per acre rose 8 percent in the year ending March 1, 1972.

The increase represents a dramatic gain over the 3-percent rise recorded a year earlier, and is due principally to a relaxation of the tight credit in effect until mid-1971. Real estate reporters expect the trend to continue through 1972.

During 1969 and 1970 the volume of funds available for real estate purchases declined and long-term interest rates went up.

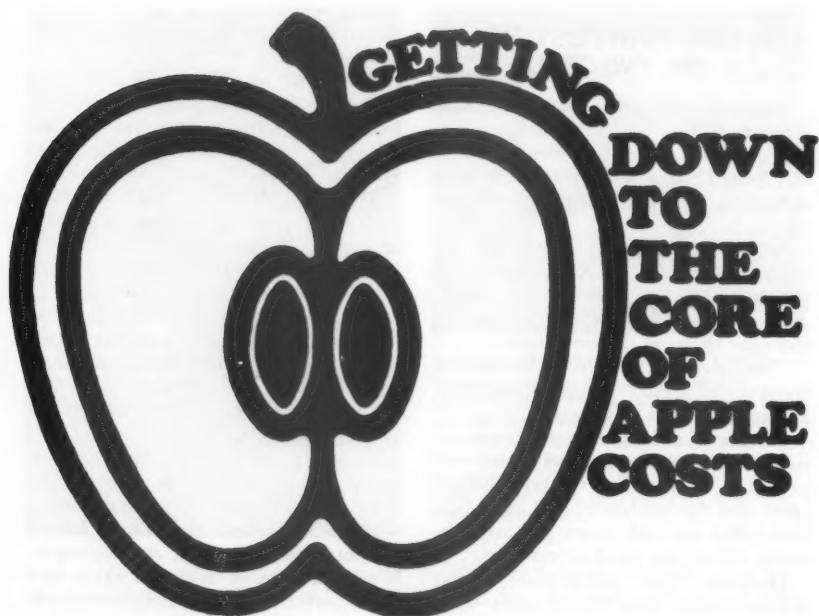
Many potential borrowers, discouraged by the high interest rates and un-

certain market conditions, postponed real estate purchases. Consequently, the volume of transfers and the rate of increase in value went down.

But with the return to a looser money market last year, demand expanded and values went up.

Values rose in all regions, ranging from a low of 5 percent in the Northern Plains to a high of 10 percent in the Appalachian and Delta States. Average value per acre increased \$16 to \$217, with the total value of farmland and buildings up \$15.6 billion to \$228.6 billion.

Most of the buyers and sellers of farm property continue to be individuals. Private and publicly owned corporations accounted for only 5 percent of the purchases and 10 percent of the acres purchased. But they sold about as much as they bought—meaning that there was little net gain of farmland by corporations for the year ending March 1, 1972.



PICKING POINTERS

Nature grows apples but people have to pick them. In fact, picking represents one of the largest costs in producing fresh apples.

Growers in Washington State, the Nation's No. 1 apple producer, paid out an average 21 cents a box in 1968 for picking. That came to about 40 percent of the growers' total operating costs over the season.

No wonder apple producers in Washington are concerned over their pickers' productivity.

Recently ERS economists, working with researchers in the Washington Agricultural Experiment Station, studied several ways Washington apple growers could make sure they were getting the most for their picking dollar.

Some of these tips might prove helpful to growers of other fruits in other parts of the Nation, too. In addition, many of these same suggestions indicate possible benefits for pickers.

Cut 'Em Down To Size

In an orchard no one climbs the ladder to success, but rather just the opposite.

The Washington study indicated that every added foot of ladder used cut the picking rate by four-tenths of a box an hour. That's because the long ladders are difficult for pickers to move and use.

Picking goes fastest in dwarf and semidwarf orchards where workers can keep their feet on the ground—or at least on boxes or short stepstools. In the Washington study pickers in dwarf orchards averaged 18.1 boxes an hour, far higher than the 11.7-box average for pickers in standard orchards.

Growers with tall trees shouldn't despair, though. They can probably pick up the picking rate—possibly by as much as 1½ boxes an hour—simply by topping their standard trees.

Take Stock of Skills

Experienced male pickers have a very real picking advantage in the tall trees where strength and skill in han-

dling long ladders and coping with difficult picking are crucial.

In fact, in orchards with standard varieties experienced men outpicked inexperienced workers of the same sex by 20 percent, and bettered the experienced women by more than a third.

Experience and sex made less of a difference in picking semidwarf and dwarf varieties. Indeed, in the smaller orchards the men and the women and the experts and the novices all picked at pretty much the same rates.

Obviously savvy placement of pickers according to their skills can have a marked effect on picking rates.

Avoid The Waiting Game

Supervisors are all-important in the picking process—responsible for instructing the workers, providing the containers and ladders, and moving the workers to new areas as picking progresses. If these tasks are done promptly so pickers don't have to wait, picking rates improve.

Workers under a hired supervisor generally pick faster than under the grower's supervision. In fact, the difference was about two boxes an hour in the Washington study.

The explanation lies in the fact that hired supervisors can devote more time and attention than can the grower, who often is under heavy pressure during the harvest period.

The Pluses of Peak Productivity

Most apple pickers in Washington are paid on a piece rate basis—a specified payment per box or per bin. Consequently, their income depends on their productivity—and workers logically compare picking jobs in search of the highest labor earnings for a given effort.

In the Washington study, hourly earnings (figured by multiplying the average piece rate by hourly picking rates) were far higher for workers in dwarf trees than in standard trees. The averages were: dwarf trees, \$3.37 an hour; semidwarf and semistandard, \$3.25; and standard trees, \$2.53.

Growers with orchards that are con-

ducive to high picking rates generally have no problem in recruiting and maintaining a harvest crew.

Conversely, growers with orchards that are hard to pick may have problems in recruiting workers and may have to offer a higher-than-usual piece rate to get an adequate crew.

... AND SOME NEWS ABOUT GROWER RETURNS

Beleaguered apple growers—feeling the pinch of rising production costs on one hand and lower prices for their products on the other—had a lot to say to the members of a special apple marketing team set up by Agriculture Secretary Earl L. Butz.

In the spring of 1972 the team held a number of informal meetings with growers, packers, processors, and others in the apple business to try to pinpoint problems and possible solutions.

The matter of grower returns was one of the hottest issues raised in all of these meetings—and the marketing team requested the Economic Research Service to undertake a special study to see just what has been happening in recent years.

ERS' findings are detailed in the table on the following page. They document that the Nation's apple growers have been having a hard time holding onto their share of the retail dollar in recent years. They also reveal another problem with growers' returns: their extreme variability from year to year.

It was the opinion of the marketing team specialists that an over-supply of apples coupled with difficulties in delivering a consistently good quality product to consumers lay at the heart of the growers' problems.

Grower prices per pound for all apples were 6.1 cents for the 1968 crop contrasted with only 4.1 cents the following season. As a result, the value of the smaller 1968 crop (totaling 5,442 million pounds) to growers was \$57.8 million more than for the large (6,752

million pounds) crop in 1969. The fall 1971 crop of 6,110 million pounds had a value of \$299.3 million—or 4.9 cents a pound.

The apple marketing team, in a final report of its findings to the Secretary of Agriculture, made a number of recommendations as to how growers might be able to solve some of their supply and quality problems.

The team also delved into other industry matters such as marketing efficiency, domestic demand, and trade.

Copies of "Apple Marketing Study: A Team Report" are available free of charge by sending a post card with your name, address, zip code, and the number of copies wanted to: Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250.

WHAT'S BEEN HAPPENING TO APPLE GROWERS' RETURNS AND MARKET SHARES

Apple variety	Change from preceding season in—		Growers' share of retail value
	Retail price	Grower return ¹	
Red Delicious:	Dollars		Percent
Washington: ²			
1967-68	11.93	4.32	36
1968-69	13.71	4.51	33
1969-70	11.96	1.92	19
1970-71	13.64	3.70	27
1971-72	13.99	3.91	28
Net change over period	+2.06	-0.41	—
Eastern U.S.: ³			
1967-68	8.91	3.96	44
1968-69	10.12	3.94	39
1969-70	9.18	2.21	24
1970-71	9.16	3.06	33
1971-72	9.48	2.90	30
Net change over period	+0.57	-1.06	—
McIntosh, Eastern U.S.: ³			
1967-68	7.23	1.90	26
1968-69	8.22	1.86	23
1969-70	7.52	1.00	13
1970-71	7.93	0.87	11
1971-72	8.36	0.79	9
Net change over period	+1.13	-1.11	—
Apples for sauce, Eastern U.S.: ⁴			
1967-68	4.51	1.10	24
1968-69	4.90	1.15	23
1969-70	4.93	0.95	19
1970-71	5.11	0.78	15
1971-72	5.06	0.74	15
Net change over period	+0.55	-0.36	—

¹ For fresh apple varieties grower returns were computed by ERS from f.o.b. shipping point prices as reported by Federal-State market news services. For processing apples, returns were calculated from SRS data on annual prices received.

² Values in New York City for combination fancy and extra fancy apples in tray-packed cartons, 42 pounds net weight.

³ Values in New York City for fancy apples in 3 pound film bags, 36 pounds net weight per master carton.

⁴ Retail prices in Pittsburgh market for a case of 24 No. 303 cans. Farm values for 31 pounds (farm weight) of apples for canning and freezing received by producers in New York, Pennsylvania, Maryland, and Virginia.

Breakthrough!

INSTANT FREEZING

One day in 1920, Clarence Birdseye went fishing through a hole in the Labrador ice. The temperature was sub-zero. He threw the fish, as he caught them, over his shoulder to the ice where they froze almost instantly in the arctic air. Later he thawed the fish, cooked them, and found that they tasted as fresh as if they had just been caught.

Mr. Birdseye discovered that it was quick freezing that made the difference. He returned to the United States to found a frozen food firm which in 1929 was sold for \$22 million.

Mr. Birdseye's early findings marked the beginning of the now-billion-dollar quick frozen food industry. It still remained, however, to develop the advanced techniques which could extend the benefits of instant freezing on as broad a basis as possible.

In the decades following Mr. Birdseye's discovery, most quick freezing was accomplished by placing filled consumer-size containers of food between metal plates at -40°F . Freezing began almost immediately but it took an hour.

It was known at the time, however, that freezing with intensely cold liquid coolants such as liquid nitrogen (-320°F .) or carbon dioxide (dry ice at -109°F .) accomplished the process much faster. But this technique was used only for shipping small quantities of frozen food. It was not until 1960 that the first commercial installations for cryogenic freezing were put on the market. They were an instant success.

Increased experience, the wide availability of liquid nitrogen and carbon dioxide, and more stringent laws

regulating frozen foods favor cryogenic freezing. But the advantages do not stop there.

Delicate vegetables like okra, asparagus and green beans, or fruits like whole strawberries, have much firmer texture and are juicier when frozen this way.

It is also possible to freeze such formerly unlikely candidates as whole peeled bananas, avocados, fresh mushrooms, green peppers, onion rings, and watermelon.

Freezing by cryogenics produces qualities in most frozen foods that are closer to the fresh state than any other commercial process. This applies to the appearance, color and palatability of food. With cryogenics, freezing may be complete or the outside may be frozen very quickly and the inside more slowly.

Shrinkage during freezing can be under 1 percent, less than with any other freezing method.

Although the cost of cryogenic freezing was initially 3 to 5 cents per pound, which is high compared with other methods, costs are decreasing as economies of scale apply.

Large cryogenic freezing installations are an increasingly important link in America's farm-to-table chain. For example, a single meat processor using cryogenics freezes 5,000 pounds of hamburgers daily.

When Mr. Birdseye ate his ocean fresh fish in 1920, he could hardly have realized that half a century later—thanks to a marriage between agriculture and modern technology—his discovery would pave the way for an industry whose influence is felt in all sectors of the American economy, but most of all in the American home.

ag outlook

Digested from outlook reports of the Economic Research Service.
Forecasts based on information available through October 1, 1972

THE STATES AS WORLD SALESMEN . . . Exports of farm commodities, worth \$8.05 billion last year, used one out of every five U.S. acres harvested. Ten States chalked up sales of \$4.6 billion, or about 57 % of the total. Illinois led with \$758 million, while Iowa followed with \$620 million. Other leading exporters included: California, \$592 million; Texas, \$456 million; North Carolina, \$420 million; Indiana, \$384 million; Kansas, \$365 million; Arkansas, \$352 million; Minnesota, \$347 million; and Missouri, \$317 million.

EXPORTABLES . . . On the basis of value, overseas nations bought more than half of our soybean and rice crops, two-fifths of the wheat, cattle hides, and tallow, and one-third of the tobacco and cotton. Our foreign customers also bought one-fourth the value of our dry edible beans, lemons, and nonfat dry milk and a fifth of the feed grains.

FEED GRAIN SUPPLIES in 1972/73 will total 238 million tons on the basis of September indications, close to last year's big supply. Production, forecast at 189 million tons, is some 16 million below last year's record total. The smaller crop will be harvested from the least acreage of this century as farmers participated heavily in the voluntary set-aside under the 1972 feed grain program.

DOMESTIC CONSUMPTION of feed grains in 1972/73 looks as if it will make a further modest gain after the sizable 6% increase to 5.1 billion bushels in 1971/72. Prospects for 1-2% more grain consuming animal units and continued favorable livestock feed price ratios will likely maintain heavy feeding rates per animal unit.

OVERSEAS SALES . . . The 1972/73 feed grain export picture looks bright. Boosted by substantial sales to the U.S.S.R., U.S. feed grain exports may well top the estimated 27 million short tons shipped overseas in 1971/72.

CARRYOVER CALCULATIONS . . . With expanding use in prospect, a moderate reduction in the carryover in summer and fall 1973 seems highly likely. At the start of the 1972/73 marketing year, the carryover was estimated at 50 million tons, 17 million more than the year before.

FARM PRICES for feed grains at harvesttime will be stronger than the levels in 1971. For example, corn prices in November will be higher than last year's low 97 cents a bushel, perhaps a few cents above the \$1.05 loan rate. However, as the year progresses prices may rise less than seasonally because of moderating effects of relatively large stocks under loan and owned by the CCC.

COTTON . . . Projected production of 13.6 million 480-pound bales (September 1 prospects) will provide enough cotton to satisfy domestic and export demand while replenishing stocks. Output, up an estimated 30% from last year, benefited from 15% more acres and 13% higher yields. National average yields, roughly 494 pounds per acre, are up 56 pounds.

COTTON EXPORTS . . . With larger export availabilities in 1972/73, shipments could increase to around 3½ million bales, compared with the 3¼ million bales exported during 1971/72.

NEW COTTON REPORT . . . The cotton harvesting season has lengthened in recent years due to shifts in major producing areas, new cultural practices, and the use of machine harvesting. To obtain a more accurate assessment of late-season ginnings, SRS will begin issuing an additional cotton crop report as of January 1. Also, issuance dates of cotton acreage and production reports have been changed to coincide with the general crop reports released by the SRS Crop Reporting Board.

WOOL STORY . . . A smaller sheep inventory last January led to a July count of 4% fewer sheep shorn this year and a similar decline in shorn wool production. Fleece weights are averaging about the same as in 1971. Expected shorn wool output is 153 million pounds, grease basis.

SHORN WOOL PRICES have staged a marked recovery from 1971's low average of 19.4 cents a pound. Farm prices climbed from about 20 cents a pound in January to about 43 cents in August, and they're likely to stay strong through December. Still, prices for all of 1972 are likely to trail those of the 1960's when they averaged 45 cents a pound.

MARKET ACTIVITY . . . Relatively low prices for raw apparel wool last year and early in 1972, smaller imports and larger exports of textile products, improving consumer incomes, and renewed military buying have added up to higher mill use of raw apparel wool than last fall. Use during January-June 1972, at 74 million pounds, was 16% ahead of a year earlier. Use should stay up through the fall and winter.

CARPET COMMENTS . . . Booming demand for carpets and rugs is a plus factor for the use of raw carpet wool and this year should be another record breaker for carpeting. Total consumption of carpet wool for 1972 likely will be up a little from last year's 75 million pounds, scoured basis. Use during the first 6 months of 1972 was running a tenth over the year before, but declining world supplies and sharply rising prices will temper consumption during the year's second half.

STATISTICAL BAROMETER

Item	1970	1971	1972—latest available data	
Farm output, total (1967=100)	102	111	111	September
Crops (1967=100)	100	112	111	September
Livestock (1967=100)	105	108	109	September
Prices received by farmers (1967=100)	110	113	128	September
Prices paid, interest, taxes, wage rates (1967=100)	114	120	128	September
Ratio ¹ (1967=100)	96	94	100	September
Consumer price index:				
All items (1967=100)	116	121	126	August
Food (1967=100)	115	118	125	August
Disposable personal income (\$ bil.)	689.5	744.4	782.9	³
Expenditures for food (\$ bil.)	114.2	117.3	123.3	³
Share of income spent for food (percent)	16.6	15.8	15.7	³
Farm food market basket: ²				
Retail cost (\$)	1,223	1,244	1,322	July
Farm value (\$)	476	477	544	July
Farmer's share of retail cost (percent)	39	38	41	July
Agricultural exports (\$ bil.)	7.2	7.7	.7	August
Agricultural imports (\$ bil.)	5.7	5.8	.6	August
Realized gross farm income (\$ bil.)	57.9	60.1	64.8	³
Production expenses (\$ bil.)	41.1	44.0	46.5	³
Realized net farm income (\$ bil.)	16.8	16.1	18.3	³

¹ Ratio of index of prices received by farmers to index of prices paid, interest, taxes and farm wage rates.

² Average quantities per family and single person households bought by wage and clerical workers, 1960-61, based on Bureau of Labor Statistics figures.

³ Annual rate, seasonally adjusted second quarter.



Secretary Butz commends Boyd and Floyd Bishop, SRS crop reporters, for their long-standing contribution to the Nation's crop-weather reporting.

CROP-WEATHER HONOREES

September 7 was agriculture and weather day at the Smithsonian Institution in Washington, D.C.

On hand to commemorate the centennial of weekly weather reports to farmers were Secretary of Agriculture Earl L. Butz and Howard W. Pollock, Deputy Administrator of the National Oceanic and Atmospheric Administration. They presented certificates of appreciation to five men chosen to stand in for the thousands of people who participate in crop-weather reporting.

In the museum's Agriculture and Mining Hall, surrounded by two centuries worth of agricultural machines and devices, Secretary Butz honored Boyd and Floyd Bishop and James Robinson.

Boyd and Floyd Bishop, 66-year-old twin brothers, operate a 920-acre cattle and hay ranch in Meade County, S. Dak. They were selected to represent the corps of SRS reporters who

supply information for crop and livestock estimates.

"The Bishop brothers," said Secretary Butz, "have been crop reporting for over 40 years, missing fewer than 10 reports during all that time."

The Bishops also gather weather information and during the past decade alone they have submitted more than 300 weather reports.

James Robinson is the Aroostook County agent for the Maine Cooperative Extension Service. He represented the Nation's 3,000 county agents. Robinson, a potato specialist, has earned a reputation for careful, unbiased, professional evaluations of crop and weather conditions over the past 16 years.

Howard Pollock honored Frank T. Street and Lucius Dye.

Mr. Street accepted a certificate in the name of 13,000 weather observers who supply detailed local weather data for the Weekly Weather and Crop Bulletin, issued jointly by the Departments of Agriculture and Commerce.

Street and his son George operate a 2,200-acre farm-orchard near Henderson, Ky. They produce peaches, seed corn, small grains, cattle, and hogs.

Lucius Dye, editor of the Weekly Weather and Crop Bulletin, was presented the Department of Commerce's Bronze Medal for Continued Meritorious Service. Dye, who has worked in the Government's Weather Bureau since 1939, has edited the Bulletin since July 1970.

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